

CLAIMS

What is claimed is:

1. A method for resin refill comprising:

- (a) moving a first resin from a first resin tank to a first resin metering tank;
- (b) transferring a first liquid to a first filling container;
- (c) moving the first resin from the first resin metering tank to the first filling container;
- 5 (d) transferring the first resin and the first liquid from the first filling container to an EDI

module;

- (e) moving a second resin from a second resin tank to a second resin metering tank;
- (f) transferring a second liquid to a second filling container;
- (g) moving the second resin from the second resin metering tank to the second filling

10 container; and

(h) transferring the second resin and the second liquid from the second filling container to the EDI module.

2. The method of Claim 1, before step (a), further comprising flushing an ion resin out of the EDI module.

3. A method for resin refill comprising:

(a) combining a first resin from a first resin tank with a first liquid to form a first resin/liquid compound;

(b) transferring the first resin/liquid compound to a dilute chamber in an EDI module;

5 (c) combining a second resin from a second resin tank with a second liquid to form a second resin/liquid compound; and

(d) transferring the second resin/liquid compound to a dilute chamber in an EDI module.

4. The method of Claim 3, before step (a), further comprising flushing an ion resin out of the EDI module.

5. The method of Claim 3, wherein step (a) includes moving the first resin from the first resin tank to a first resin metering tank, transferring the first liquid to a first filling container, and moving the first resin from the first resin metering tank to the first filling container.

6. The method of Claim 5, wherein step (c) includes moving the second resin from the second resin tank to a second resin metering tank, transferring the second liquid to a second filling container, and moving the second resin from the first resin metering tank to the second filling container.

7. The method of Claim 3, wherein step (a) includes moving the first resin from the first resin tank to a first filling container, and transferring the first liquid to the first filling container.

8. The method of Claim 7, wherein step (c) includes moving the second resin from the second resin tank to a second filling container, and transferring the second liquid to the second filling container.
9. The method of Claim 3, wherein step (c) includes moving the second resin from the second resin tank to a second resin metering tank, transferring the second liquid to a second filling container, and moving the second resin from the first resin metering tank to the second filling container.
10. The method of Claim 3, wherein step (c) includes moving the second resin from the second resin tank to a second resin metering tank, moving the second resin from the second resin metering tank to a second filling container, and transferring the second liquid to the second filling container.
11. The method of Claim 3, further comprising repeating steps (a), (b), (c), and (d) until the EDI module is filled to a desired level.
12. The method of Claim 3, wherein the first liquid and the second liquid are the same liquid.
13. An EDI module resin refill system, comprising:
 - a first resin tank for storing a first resin and a second resin tank for storing a second resin;
 - a first resin metering tank that stores a predetermined amount of the first resin transferred from said first resin tank, said first resin metering tank including a first filling container that

5 stores the predetermined amount of first resin transferred from said first resin metering tank together with a first liquid for delivery of the first resin to the EDI module;

a first valve located between said first resin tank and said first resin metering tank for controlling the transfer of the predetermined amount of first resin to said first resin metering tank;

10 a second resin metering tank that stores a predetermined amount of the second resin transferred from said second resin tank, said second resin metering tank including a second filling container that stores the predetermined amount of second resin transferred from said second resin metering tank together with a second liquid for delivery of the second resin to the EDI module; and

15 a second valve located between said second resin tank and said second resin metering tank for controlling the transfer of the predetermined amount of second resin to said second resin metering tank.

14. The system of Claim 13, further comprising a third valve located between said first resin metering tank and said first filling container for controlling the transfer of the predetermined amount of first resin to said first filling container, and a fourth valve located between said second resin metering tank and said second filling container for controlling the transfer of the
5 predetermined amount of second resin to said second filling container.

15. A replaceable membrane element of an EDI device, comprising an axially extending conduit acting as a water distributing or gathering member; an anion exchange membrane attached to said axially extending conduit and having a first perimeter edge; a cation exchange membrane attached to said axially extending conduit and having a second perimeter edge; a

5 rolled membrane bag formed by sealing said first perimeter edge with said second perimeter edge, said rolled membrane bag rolled around said axially extending conduit to form a cylindrical element having a concentrate chamber and a dilute chamber defined by said rolled membrane bag; and a protective net surrounding said cylindrical element.